

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 10, 2009

Prepared on September 28, 2009

ITEM

X

SUBJECT

RESCISSION OF WASTE DISCHARGE REQUIREMENTS
ORDER NO. 2004-0005, CITY OF MORRO BAY, MORRO BAY
DESALINATION PLANT, SAN LUIS OBISPO COUNTY

KEY INFORMATION

Treatment System Location: Adjacent to City of Morro Bay Wastewater Treatment Plant at 176 Atascadero Road, Morro Bay.
Discharge Type: Reverse osmosis brine (this is reject water created during the desalination process).
Design Capacity: Less than 0.9 million gallons per day.
Treatment: No treatment is necessary for brine discharge.
Disposal: To Pacific Ocean through Morro Bay Power Plant outfall.
Reclamation: None
Existing Orders: Waste Discharge Requirements (WDRs) Order No. R3-2004-0005
This Action: Rescind WDRs Order No. R3-2004-0005 (NPDES Permit No. CA0049697) and enroll the discharge under Order No. R3-2006-0063, Waste Discharge Requirements General Permit for Discharges with Low Threat to Water Quality (NPDES Permit No. CAG993001).

SUMMARY

Staff recommends the Central Coast Regional Water Quality Control Board (Water Board) rescind Order No. R3-2004-0005. If the Water Board rescinds the Order, Water Board staff will concurrently enroll brine discharges associated with the Morro Bay Desalination Plant under *General Waste Discharge Requirements for Discharges with Low Threat to Water Quality* (Order No. R3-2006-0063).

BACKGROUND

The primary water supplies for the City of Morro Bay (City) are the State Water Project and groundwater. The City's desalination plant operates intermittently as a backup during emergency drought conditions or when primary supplies are not available, such as when the State Water Project is shutdown each fall for maintenance. Source water for the desalination plant is pumped from a gallery of five beach wells and water wells located in the lower Morro groundwater basin. The collection method avoids impingement and entrainment of aquatic life. Potable water permeates through the reverse osmosis membranes and is captured to augment the City's potable water supply. Salty water (brine) is left behind by the reverse osmosis membranes and is discharged through an outfall diffuser system at the Morro Bay Power Plant cooling water outfall. The combined brine discharge from the beach wells and lower Morro groundwater basin wells has an effluent salinity concentration less than or comparable to

seawater. The reverse osmosis membranes must be cleaned periodically. Cleaning waste that is generated through routine maintenance is discharged to the City's sewer system.

The City has maintained compliance with enforceable water quality standards in its existing individual NPDES permit (Order No. R3-2004-0005). The facility does not require the oversight provided through regulation by an individual Order and is more appropriately regulated under the General Permit. The City's existing permit expired on May 14, 2009. The permit continues in effect until waste discharge requirements can be replaced with other enforceable requirements as discussed below.

Water Board staff requested a Notice of Intent to comply with the General Permit and additional information from the Discharger to determine whether the intermittent discharge of reverse osmosis brine is more appropriately regulated under the General Permit. The City's May 22, 2009, *Analyses Supporting Low-threat Designation of Effluent from the City of Morro Bay's Desalination Plant* concluded that the discharge is more appropriately regulated by the General Permit. The analyses were based on a Reasonable Potential Assessment (RPA) of facilities-specific effluent monitoring data, review of other relevant information concerning the desalination process, and discharge plume's characteristics. The RPA analysis and a discharge plume characterization completed in 2004 have determined that even without the power plant discharge sufficient mixing occurs to rapidly disperse the brine. The available evidence demonstrates that the marine discharge of a small volume of relatively clean desalination effluent poses little or no threat to water quality.

DISCUSSION

On August 5, 2009 the City submitted a Notice of Intent to comply with the terms and provisions of Order No. R3-2006-0063. According to Order No. R3-2006-0063, the City is required to analyze and confirm the discharge meets all standards prior to the discharge. The City's enrollment in Order No. R3-2006-0063 will protect the Pacific Ocean's beneficial uses equivalently to compliance with Order No. R3-2004-0005. If the Water Board rescinds Order No. R3-2004-0005, the Executive Officer will subsequently enroll the City under Order No. R3-2006-0063.

COMMENTS

Pending

RECOMMENDATION

Rescind Waste Discharge Requirements Order No. R3-2004-0005 and enroll under Order No. R3-2006-0063.